All these urgent reforms can be instituted under the regulations governing the policy of the Board, and require no special legislative sanction. They appeared to receive the warm assent of the House, but it was the closing sentences of Mr. Fisher's statement which aroused the deepest attention, wherein he adumbrated the lines of a Bill for the reform of education, of which the measures he had already indicated were but an instalment, which he hoped shortly to introduce. He proposed in this measure, having regard to the deplorable waste of child life, to make provision in nursery schools for children under five; to secure for every boy and girl a full period of instruction until the fourteenth year; to provide for more satisfactory education in rural areas; to secure the proper co-ordination of every type and grade of school throughout the country, and to require county authorities, either separately or in combination, to make complete and progressive schemes of education for their areas; to make better and more complete provision for adolescent education so as to ensure for young persons engaged in employment a fuller intellectual, moral, and physical discipline; and, finally, as soon as occasion serves, to consider the problem of the universities with the view of meeting the urgent need for promoting free and independent post-graduate research and the higher forms of learning in the universities of this country, together with a liberal provision of scholarships with this object. We must await the introduction of this Bill before we can discuss fully the actual means proposed to give effect to these measures of reform, but it is well that a man speaking with the high authority of the President of the Board of Education and with the full knowledge of his colleagues in the Government is bold enough to set them forth as ideals to be shortly attained, and his effort demands the fullest and most earnest support of every enlightened authority throughout the kingdom. Not until the whole fabric of education is brought under review and each department of it made effective and duly related can its full value be realised and the highest forms of education be ensured on sound and satisfactory lines.

CO-OPERATION IN RUSSIAN AND BRITISH SCIENTIFIC UNDERTAKINGS.

DURING the past year the question of a closer relationship between British and Russian savants has been the subject of several meetings of different learned bodies in Russia, chiefly in Petrograd. Particulars cannot here be given, but a short account of the more important developments likely to give some positive results may be of interest.

In April, 1916, the Minister of Public Instruction invited a number of universities to state the measures which, in their opinion, would lead to the promotion of closer intercommunication between the Russian and the British scientific worlds. The council of the University of Petrograd discussed the matter in May, and stated in reply to the Minister in June last that a closer relationship would be desirable not only with British, but also with French men of science and those of other allied countries. This object could be best attained by forming an international association of universities and academies of sciences, which would promote mutual knowledge of scientific work and activity, the organisation of international scientific undertakings (expeditions, publications, etc.), and the dissemination of the languages of the members of the association.

Such an organisation could easily undertake to bring about such measures as: (*a*) delegation of professors and academicians to the chief universities of allied countries to give courses of lectures in the language of the country (not their own) and to promote personal intercommunication with foreign men of science; (*b*) mutual admission of students of science to the universities and scientific institutions of allied countries for the purpose of advancement of their scientific studies and the acquaintance with the scientific world of a given country; (*c*) organisation of congresses in separate branches of learning for deliberating on questions of international scientific and inquiry undertakings, and of pedagogy; (*d*) organisation of yearly reports on the scientific literature of a given country, to be printed in special periodicals; (*e*) reports on the scientific activities of different institutions and of persons working in these institutions. To promote the foundation of the International Association it is necessary first of all to form an association of Russian scientific bodies, which should undertake the necessary steps to begin the publication of yearly reports on Russian scientific literature in special periodicals. It is also necessary, as a second preliminary measure, to create at the Russian Legations abroad and at the British, French, and other Legations in Russia some sort of scientific attaché, who would be at the disposal of men of science.

The matter was then taken up by the Imperial Academy of Sciences, which considered the whole question at a plenary meeting on October 15 (28), 1916, after it had been reported upon by a committee composed of the permanent secretary of the Academy, S. Oldenburg, and the academicians N. Kondakov, P. Vinogradov, and P. Walden. The report of this committee was adopted at a plenary meeting, and was afterwards presented to the Minister of Public Instruction. It laid great stress on the necessity for mutual cognisance of scientific work and scientific undertakings of Russia and Great Britain. To this end the academy formed a committee of specialists charged with the editing of two scientific periodicals devoted to physico-mathematical and biological sciences, printed in Russian and French. These periodicals will contain a summary of scientific work of Russian savants. It is proposed further to make more accessible British scientific publications and books, which it is very difficult to obtain at present,[1] by way of new

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[1] For instance, only *unbound* books are now allowed to enter Russia, whereas British books are always sold bound. I am obliged to order them with the *covers torn off.*

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regulations and perhaps subsidies to leading booksellers. The other measures proposed are identical with those contained in the memorandum of the University of Petrograd.

The Academy of Sciences proposes further to call together soon a special congress of representatives of universities, learned societies, and other learned bodies in order to discuss the practical ways and means towards promoting a closer scientific relationship with Great Britain.

B. Menschutkin.

NOTES.

The secretary to the Reconstruction Committee has favoured us with the following list of the members of the committee: The Right Hon. the Prime Minister (chairman); the Right Hon. E. S. Montagu, M.P. (vice-chairman); Prof. W. G. S. Adams; Mr. J. R. Clynes, M.P.; Sir A. M. Duckham, K.C.B.; Mr. Richard Hazleton, M.P.; Major J. W. Hills, M.P.; Mr. Thomas Jones; Mr. P. H. Kerr; Dr. Marion Phillips; Mr. B. Seebohm Rowntree; the Most Hon. the Marquess of Salisbury, K.G., G.C.V.O.; Mr. Leslie Scott, K.C., M.P.; Sir J. Stevenson, Bart.; Mr. J. H. Thomas, M.P.; and Mrs. Sidney Webb.

A summary of the Rockefeller Foundation grants for 1916 is contained in a pamphlet published in New York on March 19. The total amount of the grants made during the year was 1,649,820*l*. The largest grants were for war relief, and these reached 518,000*l*. in 1916, making 836,400*l*. since the beginning of the war. To the National Health Board 122,300*l*. was given, chiefly for the relief and control of "Hookworm" disease in the southern States, several Latin-American countries, and in certain British colonies. The board has also made a survey of the principal endemic foci of yellow fever, and experiments for the control of malaria. The China Medical Board received during the year 213,630*l*. for the promotion of medical education in China. Among the largest of the single contributions of the Foundation to outside agencies was the gift of 200,000*l*. to the New York Palisades Interstate Park Commission towards the sum necessary for the enlargement and improvement of the Palisades Interstate Park.

Prof. Emil von Behring, whose death was announced in Nature of April 5, was born at Hansdorf in 1854. He received his professional education at the Army Medical College, Berlin, obtaining his doctor's degree in 1878. He afterwards served in the Army, and in 1889 was appointed assistant at the Institute of Hygiene, Berlin, being transferred later, in 1891, to a corresponding post in Koch's Institute for Infectious Diseases. He there commenced his researches on immunity in diphtheria, culminating in 1893 in the discovery and preparation of diphtheria antitoxin. For this work he received prizes from the Académie de Médecine of Paris and the Institute of France. In 1894 he received the title of "Professor" in recognition of his scientific work, and was appointed to the chair of hygiene in the University of Halle. In the following year he accepted a call to Marburg, where he held the post of professor and director of the Institute of Hygiene. In 1895 the title of Medical Privy Councillor was conferred upon him. Although Behring's name is best known in connection with the discovery of diphtheria antitoxin, he also carried out researches on tuberculosis, ascribing the major part of tuberculosis in children to infection from tuberculous milk, and prepared a form of tuberculin, "tulase," by the action of chloral on tubercle bacilli, which, however, does not appear to have more value than other forms of tuberculin. In 1913 he published an investigation on diphtheria bacilli carriers, and proposed to treat these with a mixture of diphtheria antitoxin and diphtheria toxin. With Löffler and Ehrlich, who have also died during the course of the present war, Behring must be regarded as one of the band of pioneers of modern bacteriology and immunology.

The permanent committee for the study of the natural resources of the Russian Empire, formed by the Petrograd Academy of Sciences in 1915, has begun to publish the great work "Natural Productive Forces of Russia," which is intended to give, so far as it is at present possible, a complete review of the natural wealth of Russia, destined to play an important part in the future economic development of the country. This work will form six volumes—about 2400 pages large octavo—and is being printed in the Government printing office. The contents of the volumes will be as follows: Vol. i., "Utilisation of the Force of Wind." This volume is being prepared by a special sub-committee (president, M. A. Rykačev), and will be devoted to (1) the necessary meteorological data; (2) wind-motors, their best types, cost, and uses. Vol. ii., "White Coal"; a sub-committee under the presidency of V. T. Vernadskij will give (1) a geological and hydrological description of different regions of Russia; (2) characteristics of separate rivers and data for the utilisation of their water-power. Vol. iii., "Artesian Waters," by a sub-committee presided over by N. T. Andrusov. Contents. (1) Geological data in connection with water-bearing strata of different regions of Russia; (2) artesian bores already in existence and the future possibilities. Vol. iv., "Useful Minerals," is prepared by the geological committee and edited by K. T. Bogdanovič. It will give trustworthy information about the occurrence, localities, quantities, and properties of different ore deposits and important minerals of Russia. Vol. v., "Plants," edited by a sub-committee of specialists under T. P. Borodin: botanico-geographical review of the Russian Empire and a description of all the cultures of different regions in relation to agriculture and the utilisation of plants. Vol. vi., "Animals," edited by V. K. Bražnikov and E. F Liskun: (1) Systematic survey of the animal representatives, wild and domestic; (2) utilisation of wild and domestic animals. The edition is limited to 5000 copies; the subscription price for all the six volumes is 10 roubles (=14*s*. at the present rate of exchange). The committee for the study of the natural resources of Russia has also edited during 1916 twelve monographs, under the title of "Materials for the Study of the Natural Productive Forces of Russia," dealing with ore deposits of different metals, medicinal plants, clays, etc.; and about a hundred more are in course of printing and preparation. These monographs are published by the Imperial Academy of Sciences.

The Hanbury gold medal for 1917 has been awarded to Prof. H. G. Greenish, professor of pharmaceutics to the Pharmaceutical Society of Great Britain.

The Fothergillian medal of the Medical Society of London for 1917 has been awarded to Sir Leonard Rogers, of the Calcutta Medical College, for his work on dysenteries, their differentiation and treatment.

The treasurers of the Middlesex Hospital have received a donation of 100*l*. from Sir John and Lady Bland-Sutton and 25*l*. from Mr. G. Vaughan Morgan in response to the appeal on behalf of the research fund of the pathological institute of the hospital.

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